

**WHAT IS CLAIMED IS:**

1. A field emission display, comprising:
  - a first substrate and a second substrate facing one another and having a predetermined gap therebetween;
  - 5 an electron emission assembly formed on the first substrate for emitting electrons;
  - an illumination assembly formed on the second substrate for displaying images responsive to electrons emitted from the electron emission assembly; and
  - 10 a grid plate mounted between the first and second substrates and configured to focus the electrons emitted from the electron emission assembly, wherein the grid plate includes protrusions integrally formed thereon and extending from at least one side thereof.
- 15 2. The field emission display of claim 1, wherein the electron emission assembly comprises electron emission sources and electrodes for causing the emission of electrons from the electron emission sources,
  - wherein the electrodes include cathode electrodes and gate electrodes formed in a stripe pattern, and
  - 20 wherein the cathode electrodes and the gate electrodes are substantially perpendicular to one another and insulated from one another by an insulation layer.
3. The field emission display of claim 2, wherein the electron emission

sources are made of a carbon-based material and have a substantially uniform thickness.

4. The field emission display of claim 3, wherein the carbon-based material is any one selected from a group consisting of carbon nanotubes, graphite, diamond, diamond-like carbon and C<sub>60</sub> (Fullerene), or a mixture of at least two of the carbon nanotubes, graphite, diamond, diamond-like carbon and C<sub>60</sub> (Fullerene).

5. The field emission display of claim 2, wherein the cathode electrodes are formed on the insulation layer over the gate electrodes, and the electron emission sources are mounted on the cathode electrodes.

6. The field emission display of claim 5, wherein the protrusions are mounted on the insulation layer.

7. The field emission display of claim 5, wherein the electron emission assembly further comprises counter electrodes mounted between the cathode electrodes at a predetermined distance from the same.

8. The field emission display of claim 7, wherein the counter electrodes are electrically connected to the gate electrodes through via openings formed in the insulation layer such that the counter electrodes are electrically connected to the gate electrodes.

9. The field emission display of claim 2, wherein the gate electrodes are formed on the insulation layer over the cathode electrodes, and the electron emission sources are mounted on the cathode electrodes.

5

10. The field emission display of claim 9, wherein the protrusions are mounted on the insulation layer.

11. The field emission display of claim 1, wherein the illumination assembly comprises an anode electrode, and red, green, and blue phosphor layers formed adjacent to the anode electrode.

10

12. The field emission display of claim 11, wherein the illumination assembly further comprises a metal film formed adjacent to the phosphor layers.

15

13. The field emission display of claim 1, further comprising an auxiliary insulation layer formed on an uppermost layer of the first substrate, and the protrusions are mounted on the auxiliary insulation layer.

20 14. The field emission display of claim 1, wherein the grid plate further includes a mask section having apertures through which electrons are passed.

15. The field emission display of claim 14, wherein the protrusions are formed between the apertures formed in the mask section and along one

direction to thereby form a stripe pattern.

16. The field emission display of claim 14, wherein the protrusions are formed between the apertures formed in the mask section and along first and second directions that are substantially perpendicular to each other to thereby form a lattice pattern.

17. The field emission display of claim 14, wherein the protrusions are formed between at most every other row of the apertures formed in the mask section and along one direction to thereby form a stripe pattern.

18. The field emission display of claim 14, wherein the protrusions gradually decrease in cross-sectional area in a direction away from the mask section.

15

19. A field emission display, comprising:  
a first substrate and a second substrate facing one another and having a predetermined gap therebetween;  
an electron emission assembly formed on the first substrate for emitting electrons by generating an electric field;  
an illumination assembly formed on the second substrate for realizing a display of images responsive to electrons emitted from the electron emission assembly; and  
a grid plate mounted between the first and second substrates and

configured to focus the electrons emitted from the electron emission assembly,  
wherein the grid plate includes protrusions extending from at least one  
side thereof, wherein each of the protrusions has a general shape of an  
elongated bar.

5

20. The field emission display of claim 19, wherein cross-sectional area  
of the protrusions decreases as the protrusions are traversed from a first end  
closer to the first substrate to a second end closer to the second substrate.